

Appendix C

Placer County Offsetting Mitigations Preliminary Guidance

OFFSETTING THE AIR QUALITY IMPACTS OF ADDITIONAL EMISSIONS ASSOCIATED WITH PROPOSED PROJECTS

Placer County has a severe air quality problem. It violates the State standard for ambient ozone concentration approximately 30 days per year. The California Clean Air Act (CCAA) mandates that the Placer County Air Pollution Control District (APCD) must reduce the emissions of ozone "precursor gases" by 5% per year until attainment is demonstrated. This equates to **eliminating** emissions of approximately 1.5 tons/day per year of Reactive Organic Gases (ROG) and Nitrogen Oxides (NOx). The major sources of both of these gases are related to vehicular activities. In addition, the County is also designated non-attainment for small particulate matter less than 10um in size (PM10). Both of these pollutants constitute real health hazards for humans, as well as for plants and other animals.

Because of these air quality problems, State law requires the APCD to carefully review air quality impacts associated with the development of new "Indirect Sources". The California Air Resources Board (ARB) defines indirect sources as "any facility, building, structure, or installation, or combination thereof which generates or attracts mobile source activity that results in the emission of any pollutant for which there is a state ambient air quality standard". Therefore, the APCD requires that project proponents of new indirect sources prepare an Environmental Impact Report (EIR) that provides comprehensive evaluations of the expected emissions, and provides measures to mitigate their air quality impacts.

When evaluating the air quality impacts of indirect sources, all phases of the project and project alternatives must be considered. The air quality impact assessment should be calculated using "worst case" meteorological conditions and the most current emission factors available. Pollutants of most concern at this time are :

- total organic gases (TOG)
- nitrogen oxides (NOx)
- carbon monoxide (CO)
- particulate matter < 10 um (PM10)

To address each of these pollutants in the air quality analysis, several types of emission computations may be required. All results should be presented in units of pounds per day (lbs/day), tons per year, or as concentrations in parts per million (ppm). The EIR must evaluate the project's impact upon the atmospheric environment based on the following:

1. SHORT TERM EMISSIONS

Short term emissions generated during the site preparation and construction phase of the project include fugitive dust resulting from grading activities, materials handling, construction worker's vehicular traffic, and exhaust from heavy-duty gasoline and diesel-powered vehicles. Emission factor data for these activities can be found in *EPA AP-42, Compilation of Air Pollution Emission Factors, Fourth Edition*. Once the appropriate emission factors have been determined, computations are similar to those shown below for computing long term emissions.

2. LONG TERM EMISSIONS

The long term emissions associated with a project include both the direct emissions generated by the operation of the project and the indirect emissions induced by the project, due principally to the use of motor vehicles. If a project's completion date is anticipated to be more than 10 years in the future, an emission estimate should be done in 5-year increments to project completion. This assessment should identify and analyze emission sources such as motor vehicle activities, power generation, and project operations. Computer models are available for conducting estimates of vehicular emissions based upon patterns of usage, ambient temperature, number and length of trips etc. One such tool to model vehicular emissions is *Air Quality Analysis Tools-3 (AQAT3)*, distributed by the California Air Resources Board.

3. LOCAL SCALE ANALYSIS

The EIR may also need to estimate the project's air quality impact in the immediate vicinity of the project. Special emphasis should be placed on identifying locations of sensitive receptors (such as hospitals and schools) and the actual exposure to pollutants. It is recommended that a suitable microscale model such as *CALINE 4* be used to analyze the project's carbon monoxide impact upon nearby receptors. This model is applicable to intersections, roadway links, and ingress/egress points of parking. This model is contained in the *AQAT3* tools package.

4. LEVEL OF SIGNIFICANCE

The EIR needs to discuss and compare the project's estimated emissions of each pollutant with the APCDs threshold limits of significance for indirect sources. Since Placer County is designated as a "severe" non-attainment area for ozone, the District is mandated to reduce "precursor gas" emissions by 5% per year. Therefore, any increase in TOG or NO_x is significant and should theoretically be fully offset. The Placer County district is also designated non-attainment for PM₁₀ as well, making any increase in PM₁₀ emissions also significant.

However as a practical measure, residential projects of less than 30 units, or commercial projects smaller than 5 acres are not currently being required to offset their emissions. This "trigger level" may lower in the near future as the need for additional reductions develop, and as APCD staffing is increased.

5. HAZARDOUS POLLUTANTS

The EIR needs to identify any airborne hazardous or toxic pollutants expected to be generated by the project. This information should include:

- the types and quantities of hazardous pollutants emitted
- ambient background levels
- potential public exposure
- potential impact on public health

Mitigation measures used to minimize emissions must be described. The discussion should include control equipment, process control, and other technical measures to reduce emissions of non-criteria air pollutants as well.

Control requirements applicable to similar hazardous sources proposed in California should also be described. All applicable Federal, State, and Local air pollution control regulations, and measures to comply with these regulations, must be identified and described in the air quality impact section of the EIR.

The air quality analysis of hazardous air pollutants should include the basis for the assumptions and calculations used to determine the emission estimates. In addition, the analysis must identify if a project is to be located in an area which may be impacted by existing or planned facilities with the potential to emit toxic or hazardous pollutants. The *State of California Code of Regulations Title 17, Part III, Chapter 1, Sections 90702 and 93000* may provide additional information useful for this discussion.

6. CUMULATIVE IMPACTS

The air quality impact analysis should also take into consideration any impacts on the ambient air quality that result from the incremental impact of a proposed project when added to other past, present, or future development activities. *State CEQA Guidelines, section 15130*, describes elements which are necessary to provide an adequate discussion of cumulative impacts. *Section 15125(b) of the State CEQA guidelines, and Sections 176 and 316 of the Federal Clean Air Act* contain specific references on the need to evaluate any inconsistency between the proposed project and applicable air quality plans.

7. MITIGATION MEASURES

The EIR should identify all feasible Transportation Control Measures (TCMs) that can serve to mitigate project-related air quality impacts. There should be an assessment of the air quality benefits which could result from the implementation of TCMs. The assessment should be stated in quantitative terms, including projected reductions in emissions, trips generated, vehicle miles traveled, total emissions and pollutant concentrations.

The EIR should also identify the entities responsible for implementation of the TCMs and the timeframes for their implementation. Project proponents should contact public transit, ridesharing, bicycling, local public works, and other appropriate organizations during early planning stages to ensure that needed facilities and services are available and will be appropriately incorporated into project design.

The following list of potential measures is intended to be a guide for mitigating a variety of indirect source emissions. This list is not all inclusive, other mitigation measures are available by contacting the California Air Resources Board (ARB). The ARB is currently drafting a guidance document which lists "feasible" mitigation measures and describes calculation methodologies to determine the effectiveness of each measure. For further information contact:

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POTENTIAL MITIGATION MEASURES
TO OFFSET EMISSIONS FROM INDIRECT SOURCES

Residential mitigation measures

- EPA certified woodburning appliances
- aggressive tree planting programs
- pedestrian & bikeway easements
- solar assisted water heating
- solar assisted space heating
- pave dirt roads
- mixed use zoning
- CC&Rs to limit vehicles
- buy old vehicles off the road
- provide bus service and facilities
- park & ride lots
- organize carpools & vanpools
- education programs
- ride matching services
- development fees to fund transit operations
- help fund auto & bus conversions to alternate fuels

Commercial Mitigation measures

- aggressive tree planting programs
- pedestrian & bikeway easements
- solar assisted water heating
- solar assisted space heating
- mixed use zoning
- buy old vehicles off the road
- help fund auto and bus conversions to alternate fuels
- provide bus services and facilities
- development fees to fund transit operations
- employer rideshare coordinator for pooling
- employer trip reduction ordinances
 - bicycle incentives for employees
 - education programs
- work schedule management
 - flextime
 - staggered work hours
 - telecommuting
- parking management
 - public parking charges
 - reduced parking for pools
 - priority parking
 - limit new development parking spaces
 - enforce parking regulations
 - employer parking charges
 - park and ride lots

Land Use Controls

- General Plan air quality elements
- controlled growth policy
- contiguous growth policy
- mixed land use policy
- transit corridor development
- jobs-housing balance requirements
- trip reduction ordinances
- transit system management operational subsidies

Traffic Flow Improvements

- optimized signal timing
- interconnecting signals
- high occupancy vehicle lanes
- optimized lane striping
- vehicle restriction periods

Transit Facilities

- feeder service improvements
- timed transfer system
- bicycle parking at transit
- transit guidelines
- shuttles to major transit centers
- private sector transit
- employer fare subsidies
- service area expansion
- sell tickets at work places
- commuter express agreements with transit districts
- Convert buses to run on alternative fuels

Bicycle Facilities

- Bicycle access to transit facilities
- improve bicycle parking
- bikeway planning
- bicycle lockers at park & ride lots

Construction Related Measures

- water trucks and sprinkler systems
- chemical soil binders
- rapid revegetation schedules
- minimize amount of large equipment operating simultaneously
- schedule truck trips during non-peak hours
- phase construction activities
- substitute gasoline or propane equipment for diesel-powered equipment
- maintain equipment in optimum engine tune conditions
- install catalytic convertors
- use prechamber diesel engines
- electrify equipment where possible